

## GEL INSOLES WITH LOWER HEEL AND TOE

## RECESSES HAVING THIN SPRING WALLS

JK 6/5/06  
 This application is a continuation of 10/026,571 Filed on 12/20/2001 now U.S. Patent No. 6,599,321 which is a  
 Continuation of 09/803,706 Filed on 3/9/2001 now abandoned which is a continuation of 09/421,980 Filed 12/3/1999 now  
BACKGROUND OF THE INVENTION abandoned.

The present invention relates generally to shoe  
 insoles, and more particularly, to improved gel insoles  
 5 for shoes that provide both cushioning and spring  
 characteristics.

Insoles have generally been formed by a pad of  
 cushioning material, such as foam or sponge rubber,  
 that has a general shape conforming to the interior of  
 10 a shoe. Wearers who desire additional shoe comfort or  
 who suffer from foot trouble, for example, plantar heel  
 pain and/or arch pain, insert the cushioned insole into  
 the shoe to provide added cushioning and support.

It is also known to provide gel insoles for shoes.  
 15 The gel insoles are provided as a movable fluid or as a  
 viscoelastic gel. Because of the viscous nature of the  
 gel, the gel insoles provide shock absorption and  
 consequently protection to the foot. One reason that  
 gel insoles are popular is that they can be made  
 20 sufficiently thin to fit in shoes. In order to provide  
 comfort, a soft, absorbent top cloth is adhered to the  
 upper surface of the gel insoles.

However, the shock absorbing quality of the gel  
 insoles has a deleterious effect. Specifically,  
 25 because of the dampening affect of the gel, walking can  
 require more energy, causing the muscles to get tired  
 more easily.

U.S. Patent No. 5,551,173 to Chambers discloses an  
 insole having oblong protuberances on the upper surface  
 30 and located in areas corresponding to the reflex zones  
 of the feet, to provide a massaging action thereat. It  
 is further disclosed in this patent that the insoles  
 can be reversed so that the protuberances are on the  
 lower surface of the insoles for the purpose of raising  
 35 the insoles to provide air circulation. However,  
 because of the composition of the insoles and the  
 shapes of the protuberances, the protuberances do not